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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,072	02/11/2004	Magnus Fagrell	6796-000010/US/DVB	3314
30593	7590	09/24/2007		
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			EXAMINER WONG, EDNA	
			ART UNIT 1753	PAPER NUMBER
			MAIL DATE 09/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/775,072

Applicant(s)

FAGRELL, MAGNUS

Examiner

Edna Wong

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-43 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims **1-3**, drawn to a method of performing a chemical reaction, classified in class 204, subclass 157.15.
- II. Claims **4-9**, drawn to a method of performing a plurality of chemical reactions simultaneously, classified in class 204, subclass 157.15.
- III. Claims **10-15**, drawn to a method for performing a plurality of chemical reactions, classified in class 204, subclass 157.15.
- IV. Claims **16, 20, 24, 28-29 and 33-34**, drawn to a method of performing a chemical reaction, classified in class 204, subclass 157.15.
- V. Claims **17, 21, 25 and 30**, drawn to a method of performing a chemical reaction, classified in class 204, subclass 157.15.
- VI. Claims **18, 22, 26 and 31**, drawn to a method of performing a chemical reaction, classified in class 204, subclass 157.15.
- VII. Claims **19, 23, 27 and 32**, drawn to a method of performing a chemical reaction, classified in class 204, subclass 157.15.
- VIII. Claims **35-37**, drawn to a method of performing a chemical reaction, classified in class 204, subclass 157.15.
- IX. Claims **38-41**, drawn to the use of an apparatus, classified in class ***, subclass ***.
- X. Claims **42 and 43**, drawn to a kit for chemically reacting chemical species

with a reagent, classified in class 206, subclass 524.1.

The inventions are distinct, each from the other because of the following reasons:

Inventions I-X are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different designs, modes of operation, and effects.

Claim 1 recites:

A method of performing a chemical reaction, said method comprising:

- a) providing a sample in an applicator,
- b) applying electromagnetic radiation to the sample in form of a first shaped pulse and characterising a reflected pulse from the applicator by performing a mathematical operation so as to obtain a first reflected spectrum,
- c) changing at least one of a physical and chemical property of the sample,
- d) applying electromagnetic radiation to the sample in form of a second shaped pulse and characterising a reflected pulse from the applicator by performing a mathematical operation so as to obtain a second reflected spectrum,
- e) repeating step c) and d) until a difference between the first and second reflected spectra calculated as the mathematical difference between the first and second spectra is within a given range.

Claim 4 recites:

A method of performing a plurality of chemical reactions simultaneously, said method comprising:

- a) providing a first sample into a first applicator,
- b) providing a second sample into a second applicator,
- c) applying electromagnetic radiation to the first sample in the first applicator from a first generator, the first generator being capable of generating electromagnetic radiation at a plurality of frequencies,
- d) applying electromagnetic radiation to the second sample in the second applicator from a second generator, the second generator being capable of generating electromagnetic radiation at a plurality of frequencies, and
- e) individually controlling the electromagnetic radiation applied to the first and second applicator by individually and independently controlling the first and second

generator in response to control signals from the first and second applicators.

Claim 10 recites:

A method for performing a plurality of chemical reactions simultaneously or sequentially, said method comprising:

- a) providing a first sample into a first applicator,
- b) providing a second sample into a second applicator, and
- c) applying electromagnetic radiation to the first and second samples simultaneously or sequentially for a period of time, the electromagnetic radiation having a frequency in the range of 300 MHz-00 GHz.

Claim 16 recites:

A method for performing a chemical reaction, said method comprising:

- a) providing a sample in an applicator,
- b) applying electromagnetic radiation to the sample for a first period of time at a first level of power and varying the frequency of the electromagnetic radiation between two values and with a given resolution, and determining a reflection factor of electromagnetic radiation from the sample at least two of the frequencies covered by the range of the two values by determining the level of a feed-back signal, thereby obtaining a first set of reflection factors,
- c) changing at least one of the physical and chemical properties of the sample,
- d) applying electromagnetic radiation to the applicator at a second level of power and varying the frequency of the electromagnetic radiation between two values and with a given resolution, the range defined by the values being included in the range defined by the values in step b), and determining a reflection factor of electromagnetic radiation from the sample at least two of the frequencies covered by the range of the two values by determining the level of the feed-back signal, thereby obtaining a second set of reflection factors, and
- e) repeating step c) and d) until the difference in reflection factors calculated as the mathematical difference between the frequencies associated with the first and second set of reflection factors is within a given range.

Claim 17 recites:

A method for performing a chemical reaction, said method comprising:

- a) providing a sample in an applicator,
- b) applying electromagnetic radiation to the sample, the electromagnetic radiation having a starting frequency,
- c) varying the frequency of the applied electromagnetic radiation between two

values and with a given resolution,

d) determining a reflection factor of electromagnetic radiation from the sample by determining a level of a feed-back signal during at least part of the varying of the frequency of the electromagnetic radiation, and

e) determining, from the level of the feed-back signal, the frequency of the electromagnetic radiation wherein the reflection factor is within a given range.

Claim 18 recites:

A method for performing a chemical reaction, said method comprising:

a) providing a sample in an applicator,

b) applying electromagnetic radiation to the sample, the electromagnetic radiation having a starting frequency,

c) varying the frequency of the electromagnetic radiation incrementally around the starting frequency,

d) determining a reflection factor of electromagnetic radiation from the sample by determining a level of a feed-back signal at the starting frequency, at frequency incrementally lower than the starting frequency and at a frequency incrementally higher than the starting frequency,

e) repeating step b) and d) until the reflection factor is at a minimum.

Claim 19 recites:

A method for performing a chemical reaction, said method comprising:

a) providing a sample in an applicator,

b) applying electromagnetic radiation to the sample, the electromagnetic radiation having a starting frequency,

c) varying the frequency of the electromagnetic radiation incrementally around the starting frequency,

d) determining a reflection factor of electromagnetic radiation from the sample by determining a level of a feed-back signal at the starting frequency, at a frequency incrementally lower than the starting frequency and a frequency incremental higher than the starting frequency,

e) comparing the determined reflection factor with a reflection factor,

f) adjusting the starting frequency to a frequency so that the determined reflection factor is within a range around the reflection factor, and

g) repeating step c) to f) as often as desirable.

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Claim 35 recites:

A method for performing a chemical reaction, said method comprising:

- a) providing a sample in an applicator,
- b) applying electromagnetic radiation to the sample in form of a first pulse with a shape and characterising a reflected pulse from the applicator by performing a mathematical operation so as to obtain a first reflected spectrum,
- c) changing at least one of the physical and chemical properties of the sample,
- d) applying electromagnetic radiation to the sample in form of a second pulse with a shape and characterising a reflected pulse from the applicator by performing a mathematical operation so as to obtain a second reflected spectrum,
- e) repeating step c) and d) until the difference between the first and second reflected spectra calculated as the mathematical difference between the first and second spectra is within a given range.

Claim 38 recites:

The use of an apparatus for performing the method according to claim 10 for temperature cycling a PCR mixture.

Claim 42 recites:

A kit for chemically reacting chemical species with a reagent optionally under the action of a catalyst, wherein the chemical reaction is performed in the apparatus according to claim 38, said kit comprising:

- a) a sample holder comprising at least one of the reagent and the optional catalyst,
- b) an electronic storage means including data concerning the chemical reaction between the chemical species and the reagent under the optional action of the catalyst, said electronic storage means and apparatus being adapted for retrieving the data from the storage means and processing said data so as to control the application of an electromagnetic radiation to said sample holder.

The methods recited above contain steps that are methodically different from each other and are not required for each of the Groups. It would be a burden on the Examiner to search for every specific limitation in each of the Groups when they are not

even required for each of the Groups.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art due to their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

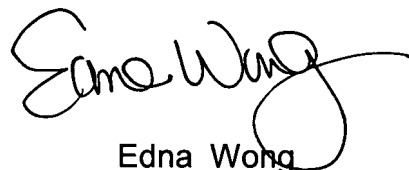
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Edna Wong", with a stylized flourish extending from the end.

Edna Wong
Primary Examiner
Art Unit 1753

EW
September 16, 2007